TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
3693

In Re Application Of: **SCHWENDEMANN, F.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/581,067	05/31/2006	BOES, T.	278	3656	2076

Invention: **GEAR DRIVE UNIT**

COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on:
04/27/2009

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Dated: **06/29/2009**

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United States Patent and Trademark Office

Examiner: Boes, T. Art Unit: 3682 Docket No. 3693

In re:

Applicant: SCHWENDEMANN, F.

Serial No.: 10/581,067

Filed: May 31, 2006

APPEAL BRIEF

June 28, 2009

Hon. Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sirs:

The Appellant submits the following for his brief on appeal and respectfully request consideration of same. The Appellant requests withdrawal of the rejections made and that the Application be placed in line for Allowance.

I. REAL PARTY IN INTEREST

The real party in interest in the instant application is the assignee of the application, Robert Bosch GmbH, Stuttgart, Germany.

II. RELATED APPEALS AND INTERFERENCES

The Appellant is unaware of any related appeals or interferences with regard to the application.

III. STATUS OF CLAIMS

Claims 1, 2, and 4-13 are rejected. Claim 3 is canceled. Claims 1, 2, and 4-13 are appealed.

IV. STATUS OF AMENDMENTS

A Final Office Action finally rejecting claims 1, 2, and 4-13 was mailed on February 3, 2009. A Request for Reconsideration was filed to address formal matters raised in the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 defines a gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50), and a separate toothed element (32) for transmitting torque to a gear component (38, 40) (specification, page 4, lines 9-19; Fig. 1). The toothed

element (32) is secured to the rotor shaft (18) and has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18). The toothed element (32) further has an axial bracing face (60) and is braced on an adjusting element (64) on the housing (16). The adjusting element (64) presses with a predeterminable pressing force against the axial bracing face (60) (page 4, line 20, through page 5, line 7; Fig. 1).

Independent claim 11 defines a gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50), and a separate toothed element (32) for transmitting torque to a gear component (38, 40) (page 4, lines 9-19; Fig. 1). The toothed element (32) is secured to the rotor shaft (18), wherein the toothed element (32) has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18). The toothed element (32) has a bore (44) formed as a blind bore (page 4, lines 19-22; Fig. 1). A bottom face (46) is disposed on a lower end of the bore (44), wherein the bottom face (46) is formed as an axial bearing face (48) and rests on said at least one face end (50) of the rotor shaft (18), such that the bottom face (46) is oriented transverse to an axis of the rotor shaft (18) (page 4, lines 25-32; Fig. 1).

Independent claim 12 defines a gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50); and a separate toothed element (32) for transmitting torque to a gear

component (38, 40) (page 4, lines 9-20; Fig. 1). The toothed element (32) is secured to the rotor shaft (18) and has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18). A through opening (52) is integrally formed onto the bottom face (46) of the bore (44) and receives a ball (56) that has the bracing face (60) (page 4, line 27 through page 5, line 7; Fig. 1).

Independent claim 13 defines a gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50), and a separate toothed element (32) for transmitting torque to a gear component (38, 40) (page 4, line 9, through page 5, line 7; Fig. 1). The toothed element (32) is secured to the rotor shaft (18) and has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18). The rotor shaft (18) is connected to the toothed element (32) in a region (78, 96) having the radial bump (74, 73) via a press fit, and in a region (84) without radial bumps, the rotor shaft (18) is connected to the toothed element (32) via a clearance fit. A corresponding installation force is required only for the region (78) having the radial bump to press in the radial bumps (page 5, lines 9-23; Fig. 1).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 2, 10 and 11 are unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 2,987,349 to Kretzmer Jr. ("Kretzmer") in view of U.S. Patent No. 7,142,845 to Leppanen ("Leppanen").

2. Whether claims 4, 5, and 12 are unpatentable under 35 U.S.C. 103(a) over Kretzmer in view of Leppanen and further in view of U.S. Pub. No. 2003/0048969 to Hunter et al ("Hunter").

3. Whether claims 6-9 and 13 are unpatentable under 35 U.S.C. 103(a) Kretzmer in view of Leppanen in view of Hunter and further in view of U.S. Patent No. 6,486,577 to Ursel et al ("Ursel").

VII. ARGUMENT

1. Claims 1, 2, 10 and 11 are not unpatentable over the combination of Kretzmer and Leppanen.

The primary reference to Kretzmer discloses a worm 20 which is disposed on the rotor shaft 15 and supported on a start-up element 24 via a bottom surface 23. The front face of the rotor shaft 15 in Kretzmer is NOT braced on the bottom surface of the worm. Likewise, the axial pressing force is not able to be adjusted in advance (i.e., as "predeterminable pressing force"), since the convex stud 24 is not formed to be adjustable.

Even if Kretzmer is combined with Leppanen, the present invention would not be achieved. Leppanen relates to a "blast-hole drilling rig" and also does not disclose attaching a gear element on a motor shaft. Rather, as shown in Fig. 6, the gear teeth 89 are connected with an angled casing 54. In addition, the gear teeth 89 have no axial contact surface, since they are supported by means of roller bearings 81a, 81b. The connection between the gear teeth 89 and the gear teeth 83 does not represent an attachment of the gear element to the rotor shaft, rather a toothing that is formed loosely/unfixed in the axial direction.

Thus, the practitioner would not be motivated to combine Kretzmer with Leppanen, since Leppanen fails to teach the elements lacking in Kretzmer. Again, even when combined, these references fail to teach or suggest all of the features of independent claims 1 and 11.

2. Claims 4, 5, and 12 are not unpatentable over the combination of Kretzmer, Leppanen and Hunter.

As argued above with regard to independent claim 1 and 11, the combination of Kretzmer and Leppanen fails to disclose or suggest the present invention. Likewise, the combination of Kretzmer, Leppanen and Hunter would not lead the practioner to the present invention as defined in independent claim 12.

Indeed, the combination of these references is completely arbitrary, since here, an axial support of a rotor shaft is in no way obvious. In addition, the balls 20 shown in Fig. 1 of Hunter support axial forces which are conducted via the

axially disposed stylus 4. The balls 26 could support potential axial forces; however, these are in no way arranged in a gear element. In addition, the measuring device of Hunter is not related in any way to an axial support of a rotor shaft according to Kretzmer.

The combination of Kretzmer, Leppanen, and Hunter therefore would not lead the practitioner to the present invention as defined in independent claim 12.

3. Claims 6-9 and 13 are not unpatentable over the combination of Kretzmer, Leppanen, Hunter and Ursel.

As argued above with regard to claim 12, the references to Kretzmer, Leppanen, and Hunter when combined could not lead the practitioner to the present invention. Likewise, combining these references with the further reference to Ursel would not result in the present invention as define din independent claim 13.

Ursel relates to the same use of an axial motor shaft bearing. Here, the gear element 26 simply is not in any position to absorb axial forces. Ursel fails to disclose or suggest this feature.

The combination of Kretzmer, Leppanen, Hunter and Ursel does not render obvious the subject matter of claim 13.

With regard to all of the above-stated grounds for rejection, the Appellant respectfully submits that a *prima facie* case of obviousness has not been established. Further, the basis for all of the rejections under Section 103

amounts to impermissible hindsight. As stated in the MPEP §706.02(j), to establish a *prima facie* case of obviousness, three basic criteria must be satisfied: (1) a suggestion or motivation to modify the cited reference or to combine the teachings in the cited references; (2) a reasonable expectation of success; and (3) the cited references must teach or suggest all the claim limitations. The cited reference "must expressly or impliedly suggest the claimed invention...." (Emphasis added) As also provided in MPEP §2143.01, the "mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."

Here, these three standards have not been met, as argued above.

In view of the foregoing discussion, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences overrule the final rejection of claims 1, 2 and 4-13 over the cited art, and hold that Appellant's claims be allowable over such art.

Respectfully Submitted,

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VIII. CLAIMS APPENDIX

Copy of Claims Involved in the Appeal:

1. A gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising:

a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50); and

a separate toothed element (32) for transmitting torque to a gear component (38, 40), wherein said toothed element (32) is secured to the rotor shaft (18), wherein the toothed element (32) has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18), wherein the toothed element (32) further has an axial bracing face (60), wherein said toothed element is braced on an adjusting element (64) on the housing (16), wherein said adjusting element (64) presses with a predeterminable pressing force against the axial bracing face (60).

2. The gear drive unit (10) as defined by claim 1, wherein the axial bearing face (48) is located on a bottom face (46) of a bore (44) in the toothed element (32).

4. The gear drive unit (10) as defined by claim 1, wherein the axial bracing face (60) has a radius (59) and is embodied as a spherical surface (58).

5. The gear drive unit (10) as defined by claim 2, wherein a through opening (52) is integrally formed onto the bottom face (46) of the bore (44) and receives a ball (56) that has the bracing face (60).

6. The gear drive unit (10) as defined by claim 5, wherein the rotor shaft (18) has a radial bump (74) in the form of a knurling (75) or a serration (76) in an axial portion (78), wherein said radial bump, upon introduction into the bore (44) of the toothed element (32), forms a force- and/or form-locking connection that is fixed against relative rotation.

7. The gear drive unit (10) as defined by claim 5, wherein in the axial region (78) of the radial bump (74) of the rotor shaft (18) at the end next to the bottom face (46), the bore (44) has a lesser inside diameter (86) than in regions (84) of the rotor shaft (18) that are without radial bumps.

8. The gear drive unit (10) as defined by claim 6, wherein the rotor shaft (18), after an integral forming on of the radial bump (74), is through-ground, and is axially mountable through a bearing sleeve (28) in the housing (16).

9. The gear drive unit (10) as defined by claim 6, wherein the rotor shaft (18) is connected to the toothed element (32) in a region (78, 96) having the radial

bump (74, 73) via a press fit, and in a region (84) without radial bumps, the rotor shaft (18) is connected to the toothed element (32) via a clearance fit.

10. The gear drive unit (10) as defined by claim 1, wherein the toothed element (32) has a worm gear (34), a cone wheel toothing, or a straight or oblique pinion toothing, which meshes with a further gear element (40, 38).

11. A gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising:

a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50); and

a separate toothed element (32) for transmitting torque to a gear component (38, 40), wherein said toothed element (32) is secured to the rotor shaft (18), wherein the toothed element (32) has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18), wherein the toothed element (32) has a bore (44) formed as a blind bore, wherein a bottom face (46) is disposed on a lower end of the bore (44), wherein said bottom face (46) is formed as an axial bearing face (48) and rests on said at least one face end (50) of the rotor shaft (18), such that the bottom face (46) is oriented transverse to an axis of the rotor shaft (18).

12. A gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising:

a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50); and

a separate toothed element (32) for transmitting torque to a gear component (38, 40), wherein said toothed element (32) is secured to the rotor shaft (18), wherein the toothed element (32) has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18), wherein a through opening (52) is integrally formed onto the bottom face (46) of the bore (44) and receives a ball (56) that has the bracing face (60).

13. A gear drive unit (10) for adjusting moving parts in the motor vehicle, comprising:

a rotor shaft (18), which is supported in a housing (16) and is braced axially on the housing (16) via at least one face end (50); and

a separate toothed element (32) for transmitting torque to a gear component (38, 40), wherein said toothed element (32) is secured to the rotor shaft (18), wherein the toothed element (32) has an axial bearing face (48), which rests on one of the face ends (50) of the rotor shaft (18), wherein the rotor shaft (18) is connected to the toothed element (32) in a region (78, 96) having the radial bump (74, 73) via a press fit, and in a region (84) without radial bumps, the rotor shaft (18) is connected to the toothed element (32) via a clearance fit, wherein a corresponding installation force is required only for the region (78) having the radial bump to press in the radial bumps.

IX. EVIDENCE APPENDIX.

None.

X. RELATED PROCEEDINGS APPENDIX.

None.